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901080-001
Rev 00

TouchTunes

FRU Installation Guide
Replacing Angelina's Light Rim PCBA

Purpose

This document explains how to install the Light Rim Printed Circuit Board Assembly (PCBA) Field Replacement Unit (FRU) kit (P/N 600278-001) for an Angelina jukebox.

Audience

- TouchTunes Angelina jukebox operators and technicians
- TouchTunes Field Service and Customer Support

Estimated Time

30 minutes

Required Personnel

1 technician

This document includes tasks of the following types:

☐	Software
☑	Electrical
☑	Mechanical

Topics

- Required Tools and Equipment
- Important Safety Information
- Included in This Kit
- Preparing for the Light Rim PCBA Replacement
- Installing the Replacement Light Rim PCBA
- Contacting TouchTunes Technical Support

Required Tools and Equipment

- Phillips head #2 screwdriver
- Nut driver, M4 (7mm) (or equivalent ratchet with extension)
- Pliers
- Anti-static wrist band
- Cutting tool (to cut cable ties)
- Cable ties for cable dressing

Important Safety Information

WARNING: When performing this procedure or any other maintenance on your jukebox, the unit must be powered off and its electrical power disconnected.

IMPORTANT: A properly-grounded anti-static wrist band should be worn at all times during the procedure presented in this document.

Included in This Kit

Ensure that you have received all the required parts before proceeding with this installation.

Part	Quantity	TouchTunes Part #
SUB, RING, RIGID, CORNER	4	301055-001
SUB, RING, FLEX, SHORT	2	301053-001
SUB, RING, FLEX, LONG	2	301054-001
FAS, SCR, X-PAN, M3x5, ZN	8	200021-005
FAS, SNAP RIVET, 2mm, BLK NYL	15	200098-002
MAN, FRU, LIGHT RIM PCBA, PMT (this document)	1	901080-001

NOTE	For warranty returns, place the defective unit into the packaging/container from which you remove the replacement unit. You must obtain a valid Return Authorization (RA) number from TouchTunes before shipping a defective unit back.

Preparing for the Light Rim PCBA Replacement

This procedure can be performed on-location, but it requires a smooth, flat table onto which some Angelina parts will be placed while the replacement is being done.

Installing the Replacement Light Rim PCBA

1. Unlock and open the jukebox door.
2. Press the **MNGR** button on the I/O Board to open the Operator interface main menu.
3. On the Angelina screen, press the **REBOOT** button.
4. When you hear the BIOS beep, power down Angelina by setting the rocker switch on the Power Supply Unit (PSU) to the off (**O**) position.

WARNING: Never shut down or unplug Angelina without first performing a reboot and waiting for the BIOS beep. Doing so can cause damage to the hard drive and make it unusable.

5. Unplug the AC power cable from the wall socket.

6. Remove all connections from the bottom panel of the monitor.

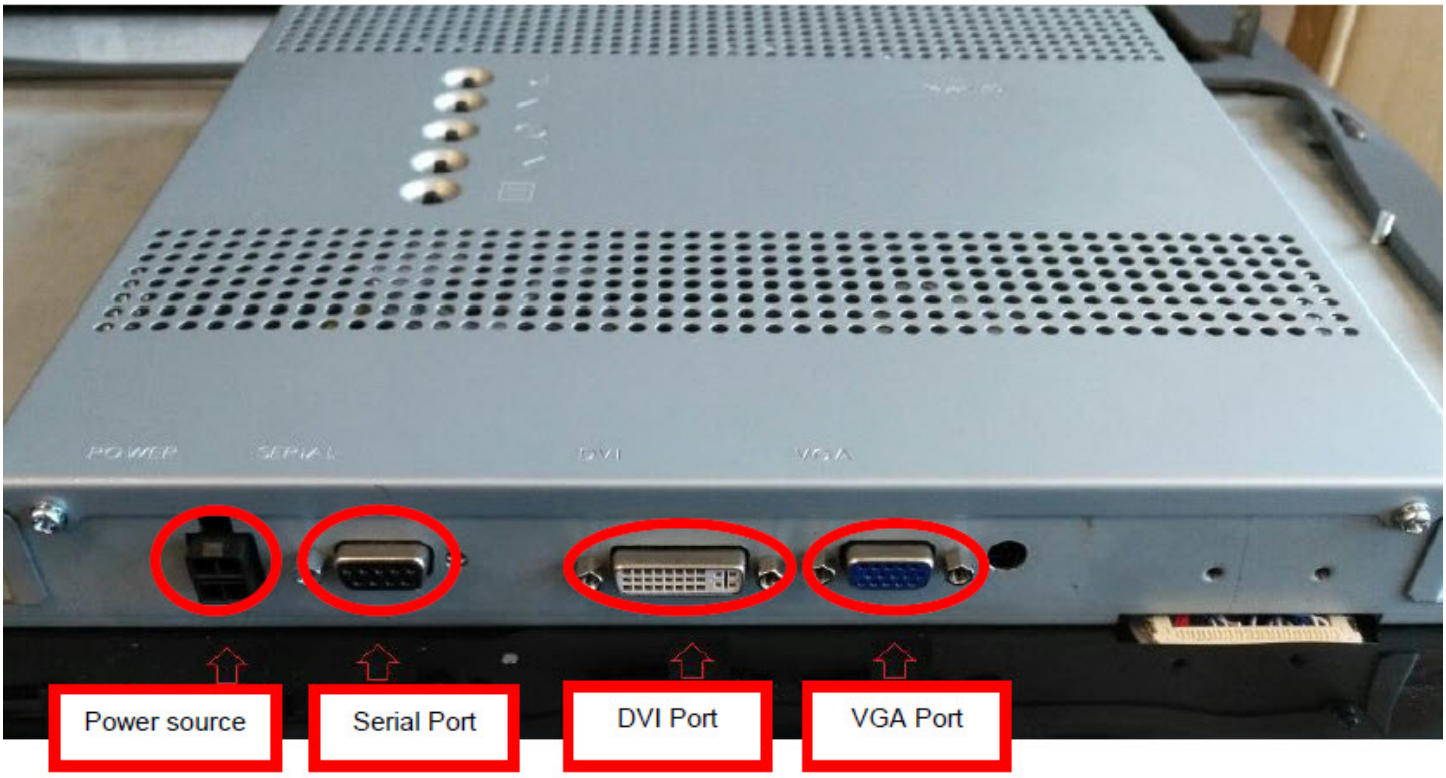

Figure 1: Touch screen monitor - bottom panel

7. Loosen the 2 nuts from the top part of the monitor.

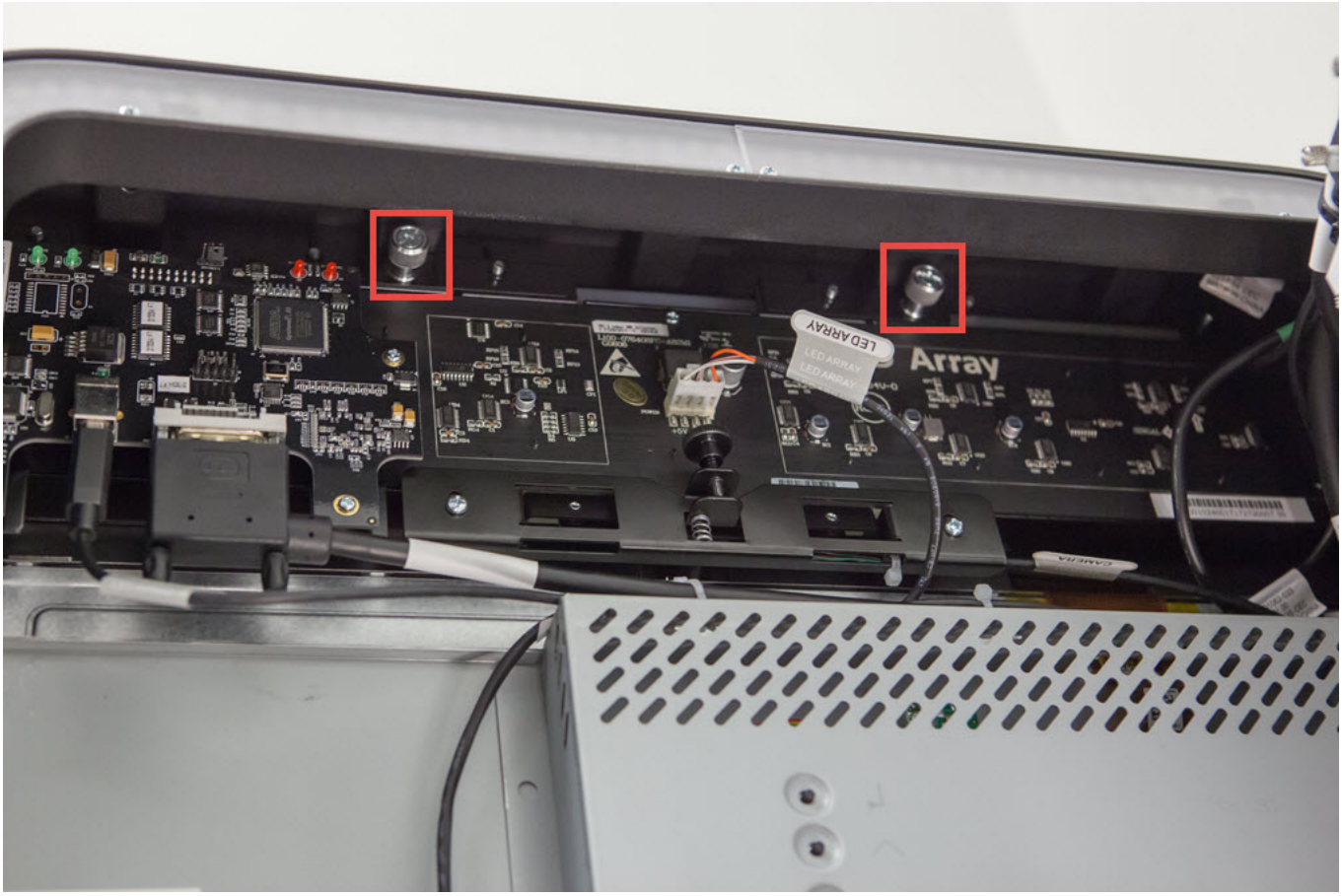

Figure 2: Location of top nuts

8. Snip the cable ties holding the cables together on top of the monitor.

9. Remove all cables from the Visualizer (LED Array and PCB).

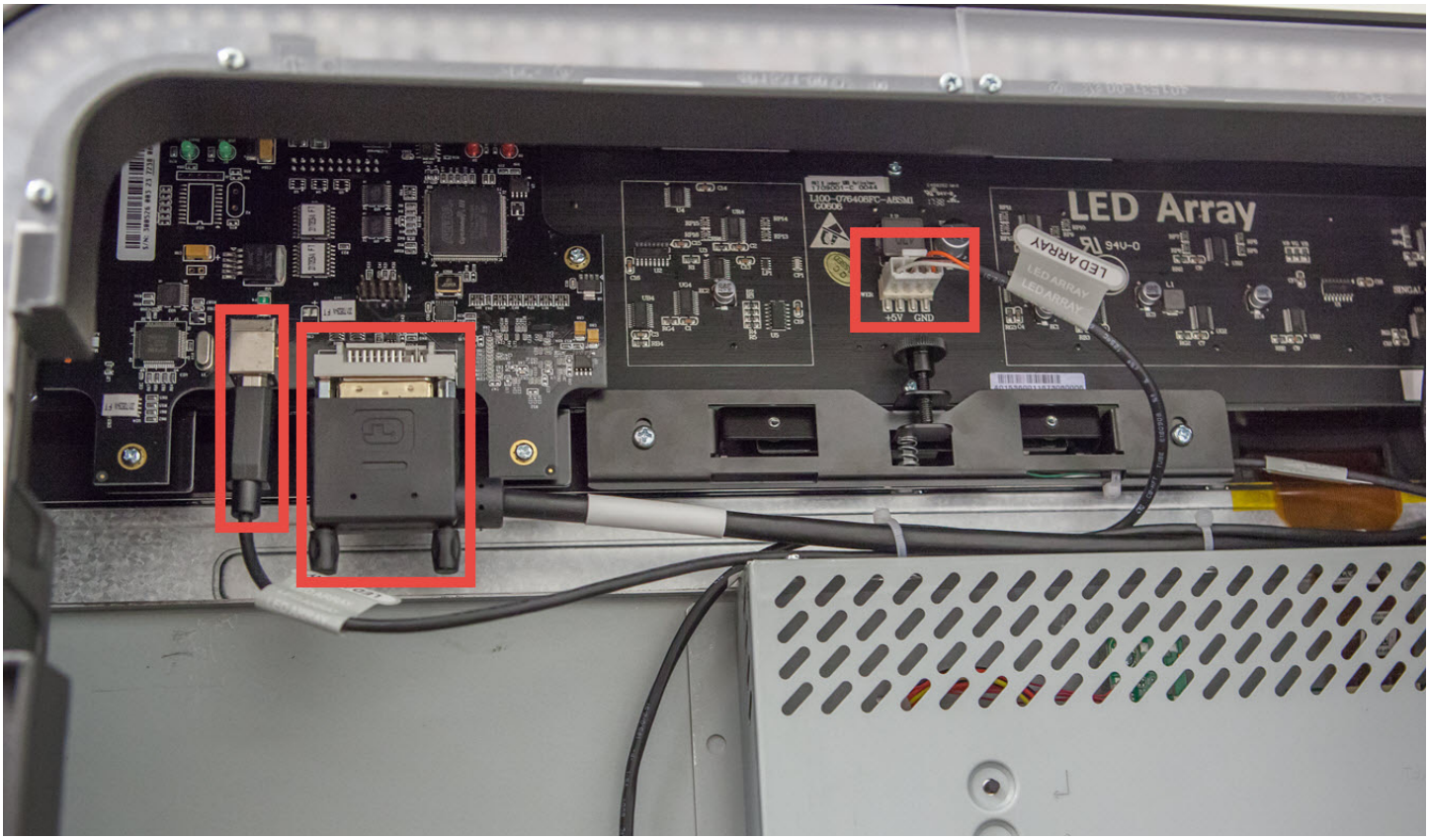

Figure 3: Visualizer cable connections

10. Remove the 3 nuts from the bottom part of the monitor and set them aside. The bottom center nut is shown in the following figure. The location of the left and right nuts are circled in red.

Figure 4: Removing bottom center screw

11. Remove the wing nut from the right side of the monitor and set it aside.

Figure 5: Location of right-side wing nut

12. While supporting the monitor from the exterior, remove the wing nut from the left side of the monitor and set it aside.

Figure 6: Removing the left-side wing nut

13. With one hand positioned on the rear of the monitor and the other supporting its front on the exterior, carefully push the unit forward and lift it away from the jukebox. Set the monitor aside, ensuring you do not scratch the front screen.

Figure 7: Removing the monitor

- Steps 14 through 17 apply to the payment model of Angelina. For the "Free to Patron" (F2P) model, skip to step 18.

14. Remove the 3 screws and 3 nuts that fasten the payment panel. Remove the bill stacker so you can access and remove the interior nut. Once the nut is removed, you can place the bill stacker back into its position.

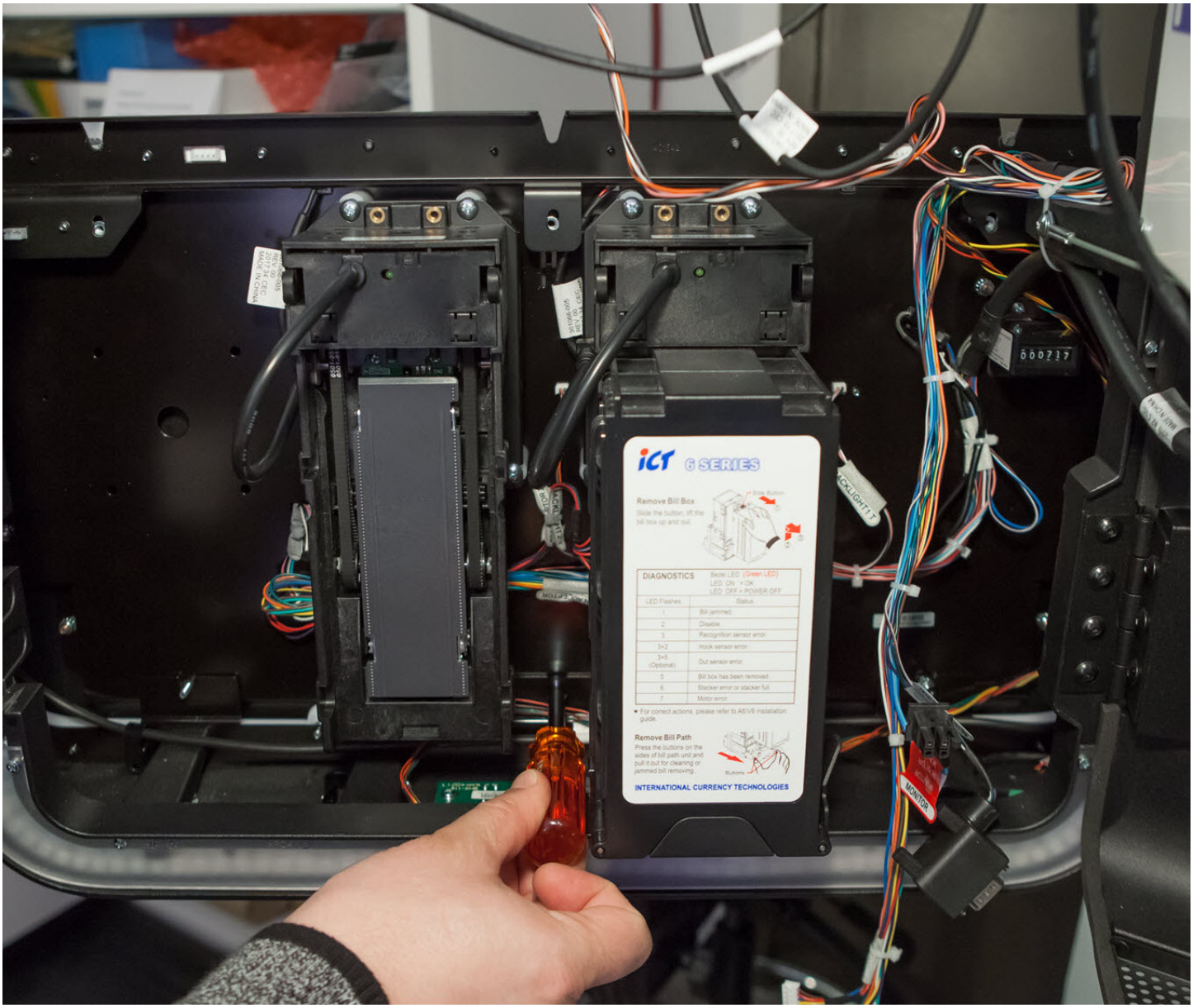

Figure 8: Removing the interior nut

15. Disconnect the payment squid cable from the Modular Hardware Platform.

Figure 9: Disconnecting the payment squid cable

16. Cut the cable tie.

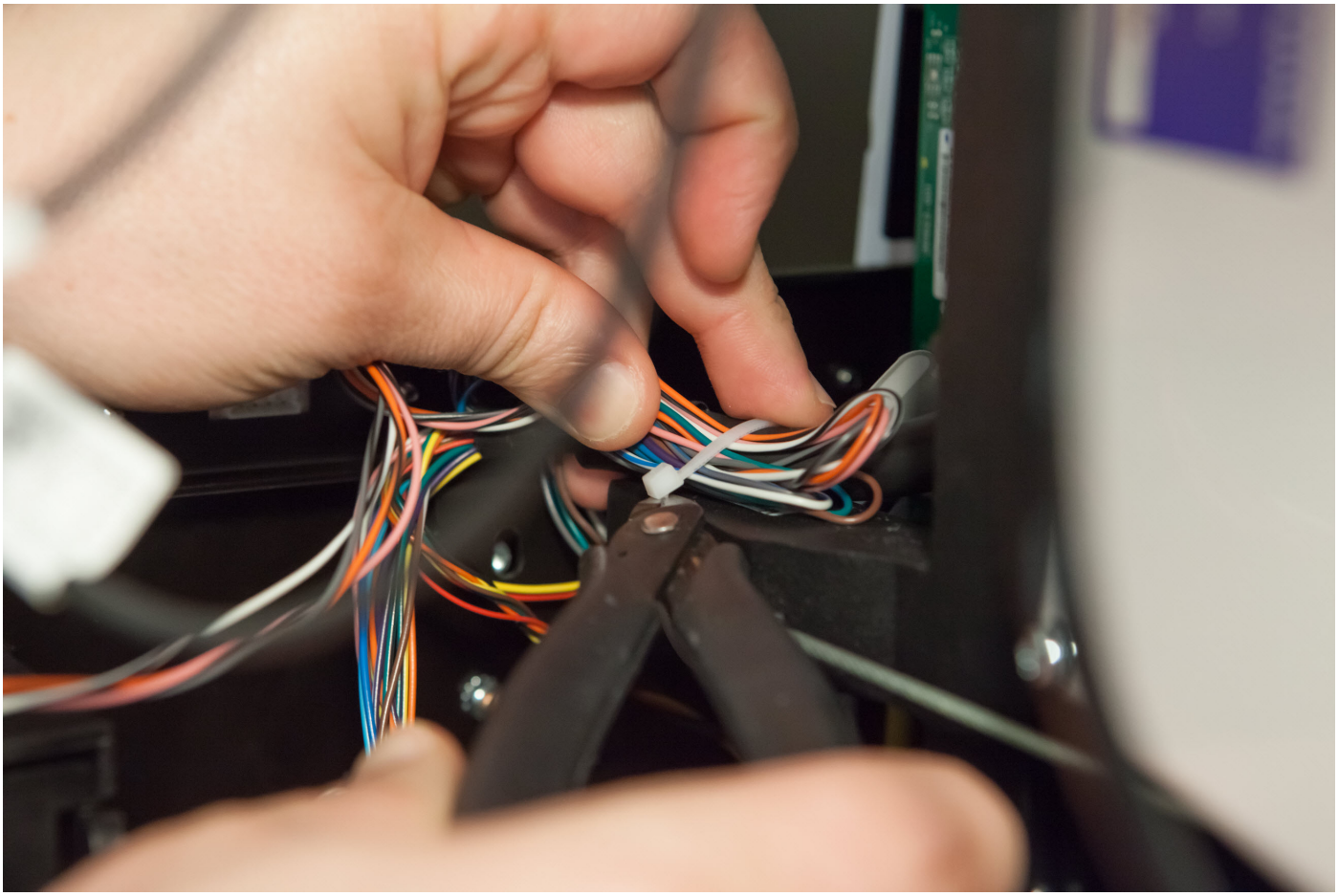

Figure 10: Cutting the cable tie

17. Remove the payment panel from the jukebox and set it aside to be re-installed later.

Figure 11: Removing the payment panel

18. Remove the 3 **nuts** from the back of the brand bar.

Figure 12: Removing brand bar nuts

19. Disconnect the 4-pin connector.

Figure 13: Disconnecting the 4-pin connector

20. Remove the 4 screws from the front of the brand bar.

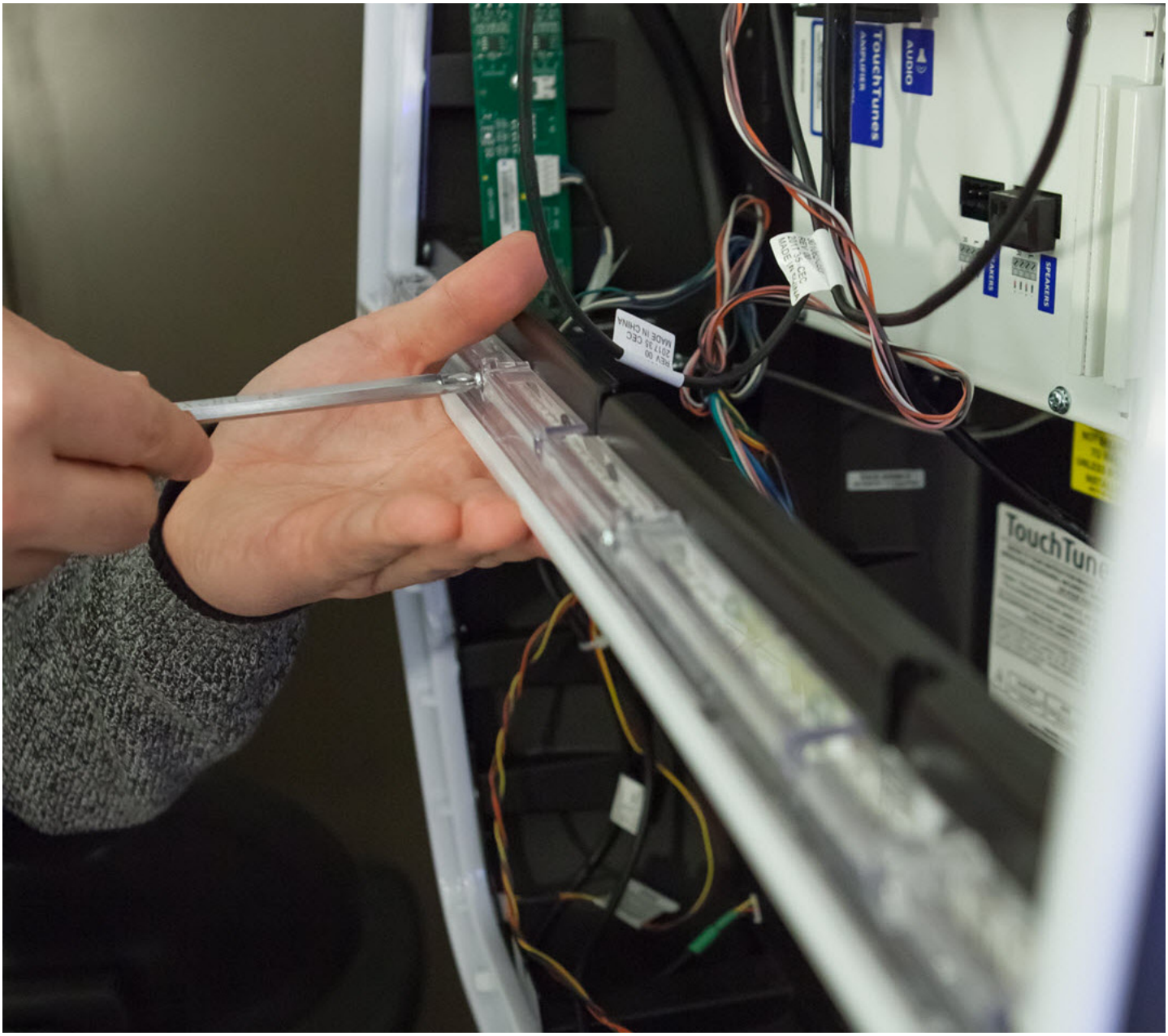

Figure 14: Removing the front screws from the brand bar plastic cover

21. Remove the brand bar plastic cover.

22. Remove the 2 screws that fasten the plastic rim to either side of the metal crossbar bending slightly the flexible PCB of the brand bar.

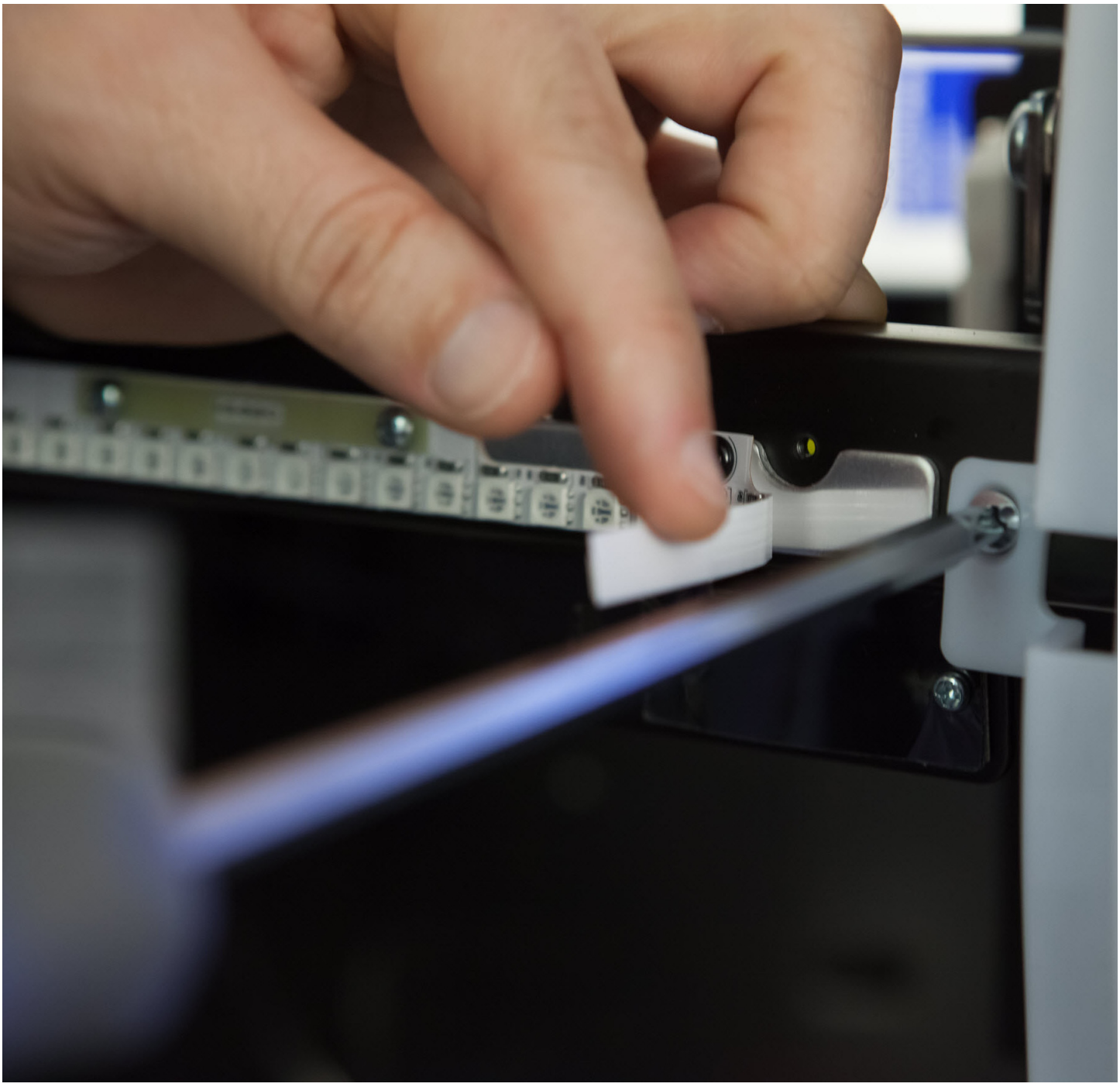

Figure 15: Removing right side screw

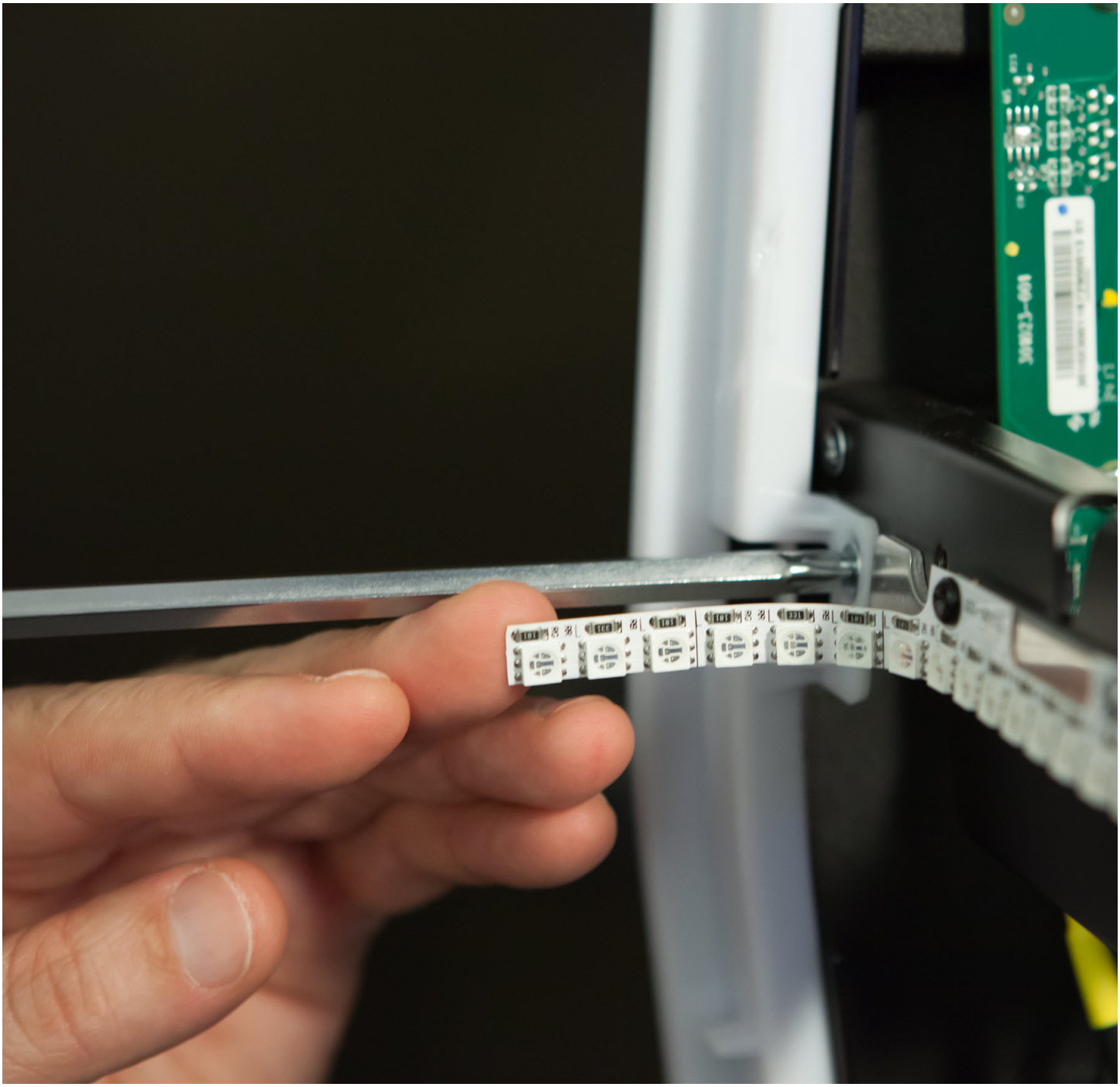

Figure 16: Removing left side screw

23. Remove the remaining 10 screws that fasten the plastic rim to the front of the jukebox. The locations of the screws is highlighted in red in the following figure.

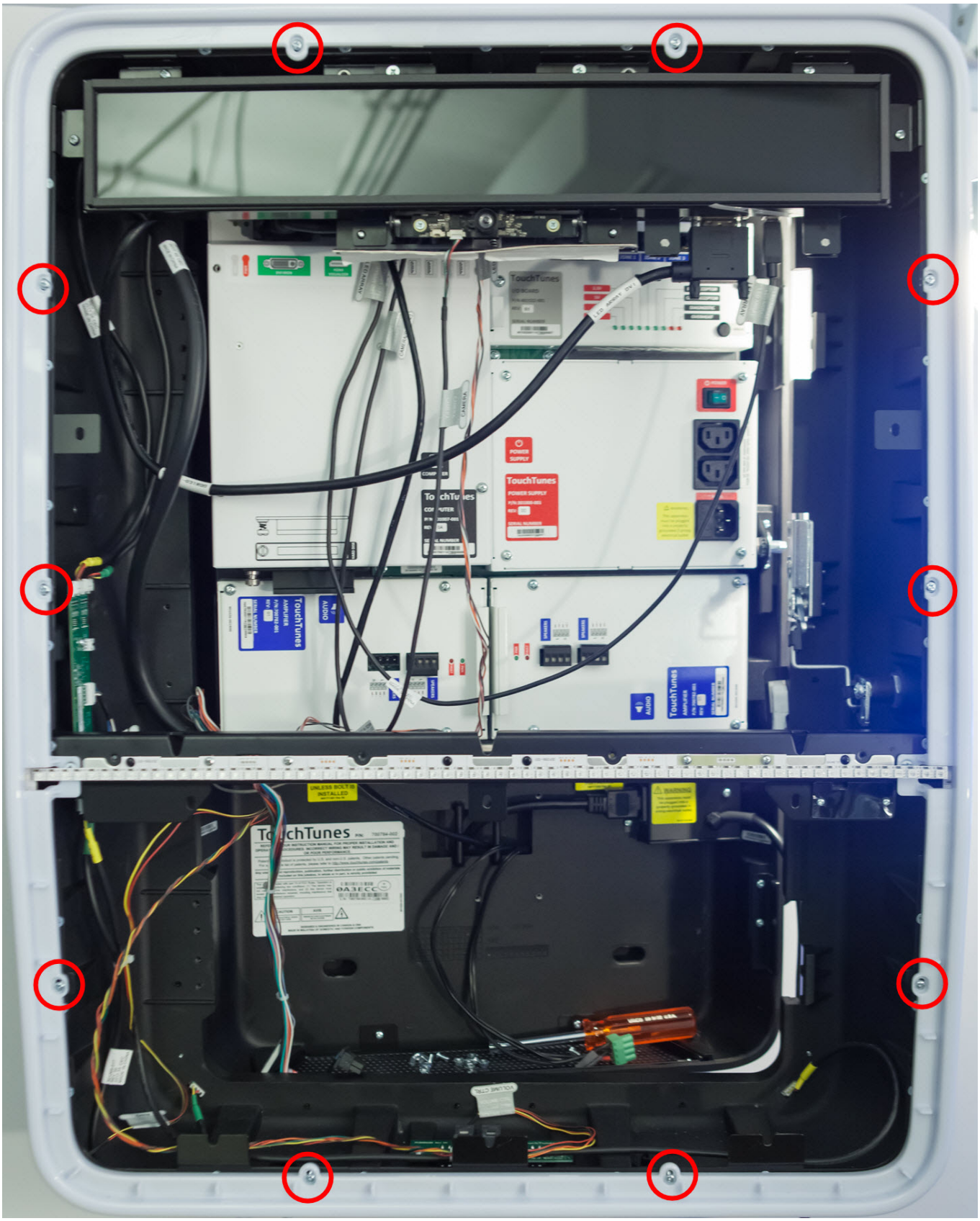

Figure 17: Removing rim screws

24. Remove the plastic rim to access the PCBAs. Set the rim aside to be re-installed later.
25. If you are replacing the PCBA in the bottom left corner, disconnect the 4-pin connector. Make sure to reconnect this after replacement of the PCBA.

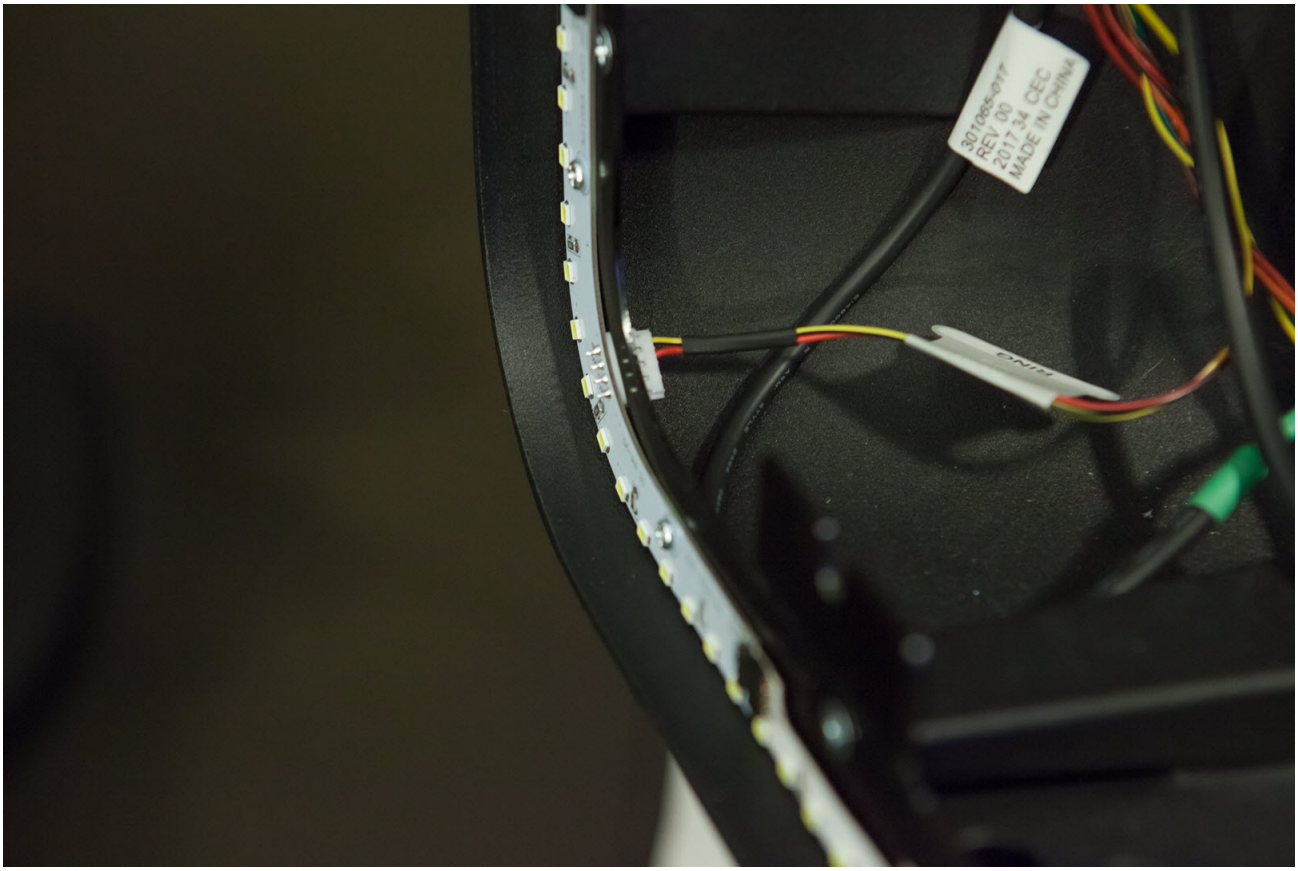

Figure 18: Removing 4-pin connector from bottom left PCBA

26. For corner PCBAs, remove the 2 screws and slide the defective component from its position.

Figure 19: Removing corner screws

27. For straight PCBAs (long and short), push out and remove the black push pins and then slide the defective component from its position.

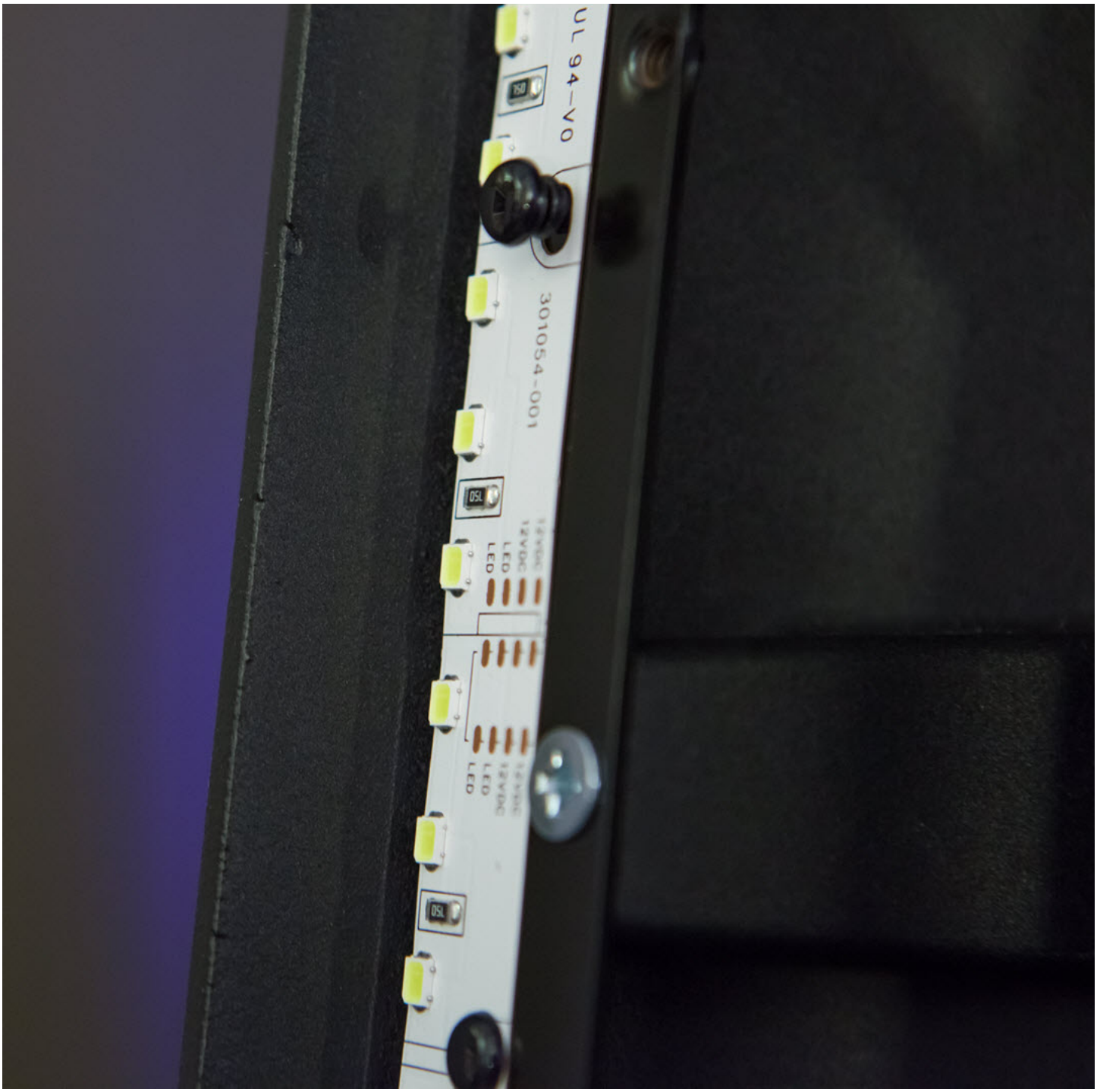

Figure 20: Removing push pins from straight PCBA

28. Place the replacement PCBA into the position from which you removed the defective PCBA.
29. For corner PCBAs, fasten the PCBA using the screws removed earlier (or from your kit). For straight PCBAs, fasten the PCBA using the push pins removed earlier (or from your kit). TORQUE: 5Lbf*in - Do not overtighten the screws, as you may damage the PCBAs.
30. Place the plastic rim into position and loosely fasten the 2 screws located at the top of the rim. The rim must be slightly loose so it can be properly aligned in the next step.

31. Make sure the plastic rim is completely flush with the enclosure. If this is not the case, then you will encounter issues when re-installing the monitor.

Figure 21: Making plastic rim flush with enclosure

32. Torque the 2 top screws (TORQUE: 5Lbf*in) while holding the rim flush with the enclosure.
33. Fasten the 10 remaining screws on the rim (TORQUE: 5Lbf*in) including the 2 that are located beneath the brand bar PCBA.
34. Place the plastic cover over the brand bar PCBA and loosely fasten its screws. The screws will be torqued after the payment panel is in its position. For the "Free 2 Patron" model, the screws can be torqued immediately (TORQUE: 5Lbf*in) and you can skip to step 37.
35. For the payment model jukebox, re-install the payment panel using the 3 screws and 3 nuts (TORQUE: 10Lbf*in) you removed earlier and then reconnect the payment squid to the Modular Hardware Platform (see Figure 9: Disconnecting the payment squid cable).
36. Now TORQUE: 5Lbf*in the screws you fastened loosely on the brand bar in step 34.

37. Reconnect the 4-pin connector to the back of the brand bar.

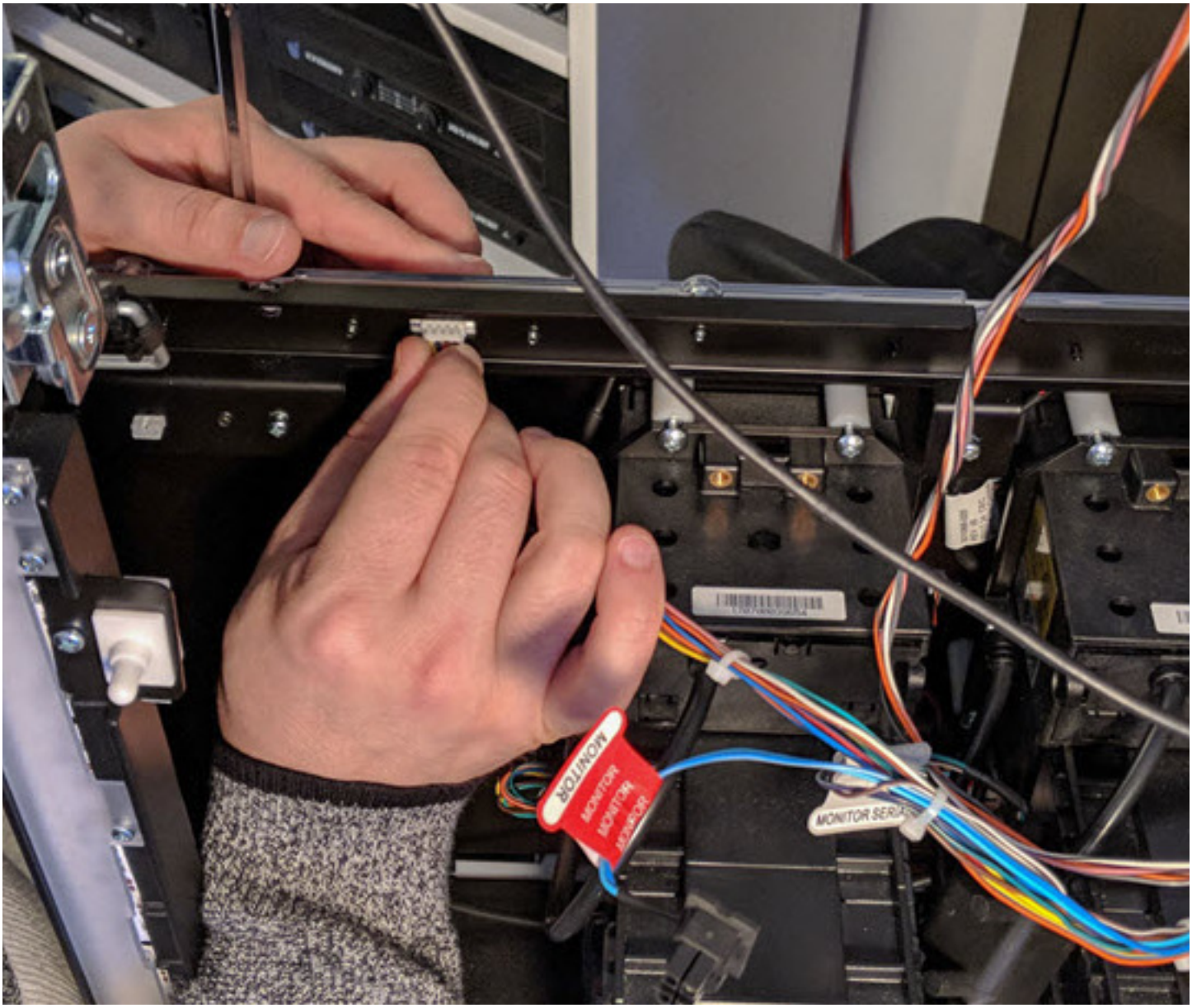

Figure 22: Reconnecting the 4-pin connector

38. Now re-install the monitor. Angle the monitor into position such that its 3 lower studs are seated in their tabs on Angelina's door. Doing so will provide support for the monitor while you maneuver it into its final position.

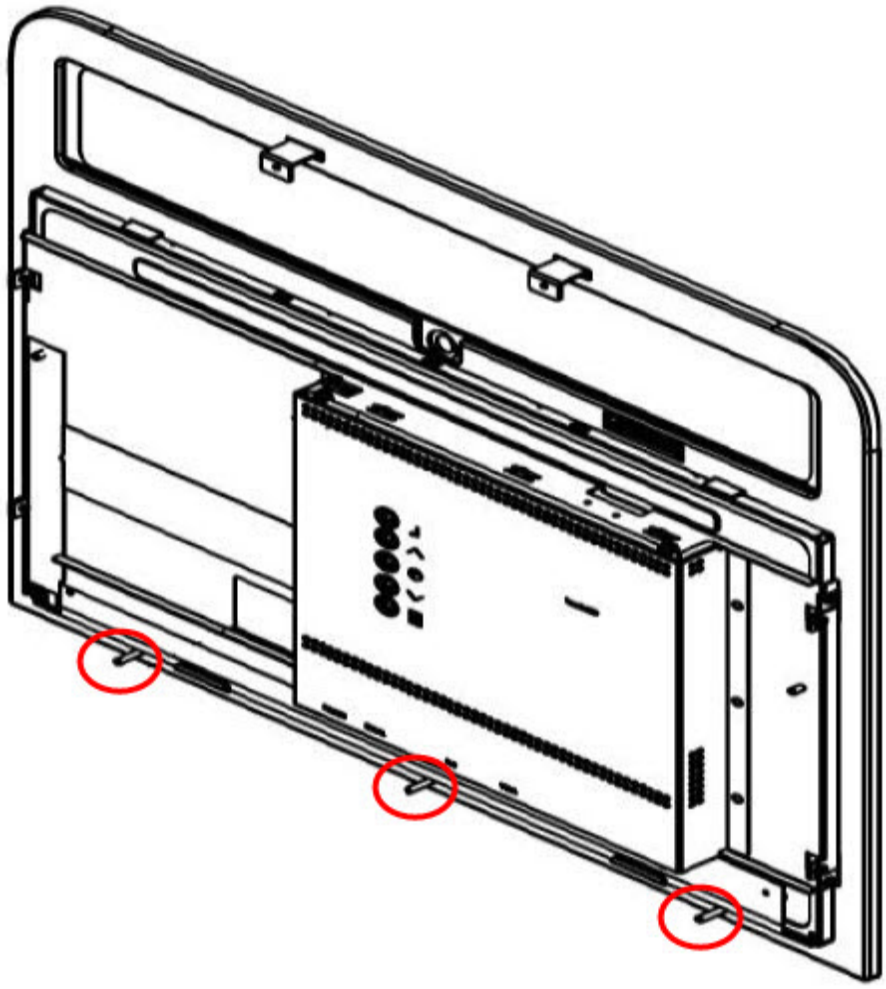

Figure 23: Location of studs on the monitor

39. Press firmly on the face of the monitor until it is properly seated and makes flush contact with the door.

CAUTION: DO NOT OVERTIGHTEN the nuts in the next step. Doing so may cause damage to the touchscreen. TouchTunes is NOT responsible for equipment damage caused by improper installation.

40. Fasten the 2 wing nuts (finger-tight) located on the left and right sides of the monitor. Start with the left wing nut first while supporting the monitor from the front of the jukebox exterior. See Figure 6: Removing the left-side wing nut for how to position yourself.

41. While pressing firmly on the top of the monitor from the exterior, tighten the 2 nuts at the top of the monitor on the interior.

Figure 24: Replacing top nuts

42. Replace the 3 nuts located at the bottom of the monitor.
43. Reconnect all cables to the Visualizer (LED Array and PCB).
44. Reconnect the connections to the bottom panel on the monitor.
45. Replace the cable ties removed earlier.
46. Plug in the AC power cable.
47. Power up Angelina and inspect the rim where the replacement was made to ensure there are no abnormal dark spots.

You have now completed the replacement of the Light Rim PCBA.

Contacting TouchTunes Technical Support

If you need help or have questions about this guide, call the TouchTunes 24/7 Service Hotline at 888-338-5853.

To help us assist you more effectively with problem reports, the following information may be required when contacting TouchTunes Support:

- Jukebox model and ID
- Operator ID
- Serial number of the component you believe to be defective
- Date/time of the problem
- Actions performed immediately before the problem occurred
- Any additional comments relevant to the problem

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